

ABSTRACT

An electrokinetic method for groundwater protection, soil remediation and engineering which comprises applying an electric field across an area of soil, sediment or slurry so as to generate a pH and Eh gradient and thereby promote the *in situ* precipitation of a stable iron-rich band. The method may be performed for the purpose of stabilisation and/or strategic dewatering/rewatering of soils, sediment and/or slurries, the improvement of the physical properties of soils and sediments for engineering purposes, the forced and directed migration of contaminated leachates, and/or electro-osmotic purging of non-polar contaminants.